

Page Denied

STAT

STAT

USSR CONFERENCE ON CONTROL
OF TICK-TRANSMITTED SPRING-SUMMER ENCEPHALITIS

Zhurnal Mikrobiologii, Epidemiologii,
i Immunobiologii, No 9
Moscow, Sep 1954

S. G. Gladkikh

An interblast scientific and practical conference of medical workers was held at Kuybyshev, 2-4 December 1953. This conference dealt with problems pertaining to the control of tick-transmitted spring-summer encephalitis and of related diseases.

The conference was organized by the Ministry of Health RSFSR for the benefit of scientific and practical medical workers of the European part of the RSFSR. In February 1954, a similar conference for medical workers of the Asiatic part of the RSFSR was called and held at Novosibirsk.

Specialists in infectious diseases, neuropathologists, virologists, epidemiologists, public health organization workers, entomologists, and specialists in other fields took part in the work of the conference.

M. D. Shampanov, chief of the Main Sanitary-Antiepidemic Administration, Ministry of Health RSFSR, gave the introductory address. In this address, Shampanov noted that during recent years, in connection with the rapid settlement and development of sparsely populated forest regions of the Soviet Union and in connection with the energetic industrial and transport development in these regions, the incidence of tick encephalitis and related diseases has increased considerably. In comparison with 1948, the incidence of tick encephalitis had increased four times in the RSFSR by 1953. New foci have appeared in various regions of the RSFSR, extending from the Far East to the Karelo-Finnish SSR and the Kaliningrad Oblast. Shampanov stated that the conference is of particular importance, because its purpose is to solve the basic problems pertaining to the control of tick encephalitis. Shampanov called attention to the fact that to apply more effectively measures for the control of encephalitis, the antimalaria network of the Soviet Union has been made to participate in the work of control, because this network employs the greatest number of entomologists and has extensive experience in applying many-sided measures for the control of parasitic diseases.

The major part of the reports presented at the conference was devoted to the clinical aspects, virological aspects, and diagnosis of tick encephalitis. To a lesser extent, the reports dealt with problems of epidemiology, prophylaxis, and control of this disease.

It must be noted particularly that in addition to well-known scientists in this field (Prof P. A. Petrisheva, Ye. N. Levkovich, A. N. Skrynnik, and others), scientific and practical medical workers who are active in the periphery (Kuybyshev, Molotov, Izhevsk, Yaroslavl', and other cities) took part in the conference. Many participants from the periphery presented significant reports which indicate that extensive scientific and practical work on the subject of tick encephalitis is being carried out there.

The following points were stressed in the reports: (1) it is necessary to subject to extensive study the individual foci of tick encephalitis in different regions of the Soviet Union so as to carry out effective measures for the elimination of every focus; (2) the clinical aspects of the disease vary, so that particular attention must be paid to diagnosis; medical workers must take account of this and concentrate on this matter; (3) since S. N. Davidenkov, A. A. Smorodintsev, and their collaborators have described the so-called

STAT

two-wave encephalitis (an infection which is transmitted to human beings as a result of the consumption of raw milk from goats which are infected with tick encephalitis, and which, for that reason, function as carriers of the virus of the disease), further investigation of the epidemiology of this disease is required, particularly of the mechanism of infection, the clinical aspects of the disease, and prophylactic measures for its control.

The points mentioned above were emphasized in a report by Prof Ye. N. Levkovich, entitled, "New Data on the Epidemiology, Serological Diagnosis, and Prophylaxis of Tick Encephalitis" and in other reports.

In a report by Professor Petrishcheva dealing with the theory of natural reservoirs of seasonal encephalitides, particular attention was paid to the terrain epidemiology of reservoirs of tick encephalitis, the characteristics of the microlocation of ticks, and the type of hosts which they infest (mainly small forest rodents and animals which feed on insects).

In a report by Docent N. S. Rozhayeva, entitled, "Tick Encephalitis in Kuybyshev Oblast," the history of this disease was discussed. Rozhayeva stated that cases of tick encephalitis have been registered in that oblast for a period exceeding 30 years, that the distinctive characteristics of the clinical course of the disease have been established, and that lethal cases have been noted.

Prof A. I. Zlatoverov, in a report entitled "Problems of Neuroinfection in Kuybyshev Oblast and Various Diseases Which Affect the Nervous System," has discussed a group of diseases which comprises multiple sclerosis, arachnitis, serous lymphocytic meningitis, and others. Tick encephalitis must be carefully differentiated from these diseases.

In a report by R. I. Kuznetsova dealing with the epidemiological characteristics of two-wave meningoencephalitis in Leningrad Oblast, convincing data were presented in regard to the reservoirs of this disease. According to Kuznetsova, the infection arises as a result of the consumption of raw goat milk. The strains of virus which have been isolated from the blood of patients and from the blood or milk of goats proved to be identical in serological and virological characteristics.

Of particular interest was the report by A. V. Pshenichnov, S. P. Shvetsov, N. P. Kreshchenko, L. B. Gel'dner, and R. A. Pshenichnov (Molotov) in regard to the so-called Yayva meningoencephalitis. This disease, which has a virus etiology, was observed in Yayva, Molotov Oblast. As far as the clinical aspects are concerned, the Yayva encephalitis reminds one of the light form of tick encephalitis. However, the authors of the report emphatically deny that there is any connection between the disease observed by them and ticks or the consumption of raw goat milk. The problem pertaining to this disease requires further investigation.

As has been stated already, the subjects of prophylaxis and of disease control did not receive much attention at the conference. For instance, no information was presented at the conference on the epidemiological effectiveness of active immunization against tick encephalitis. Apparently, this problem has not been investigated adequately, notwithstanding the fact that active immunization is being applied rather extensively and has been practiced for a number of years. Several types of antiencephalitis vaccine are available.

STAT

In the report entitled "Experience Acquired During Many Years in the Application of Serum Prophylaxis and Serum Therapy of Tick Encephalitis," by A. V. Pshenichnov and N. P. Kreshchenko, interesting data were presented on the application of a special antientcephalitis goat serum for the prophylaxis of tick encephalitis. This serum was developed at the Molotov Virological Laboratory and administered to persons after they had been bitten by ticks. It has been found that this serum produces milder reactions than the equine hyperimmune antientcephalitis serum. However, its effectiveness has not been investigated and the indications for its application have not been determined. Under the circumstances, the advisability of administering the serum after every tick bite, as has been recommended by the authors of the report, must be regarded as doubtful.

Some reports were devoted to the characterization of the vector of encephalitis in individual regions. These reports dealt with the species composition, the seasonal frequency, and the aggressiveness of ticks. To mention a few instances, reports by S. V. Sorokin of the Leningrad Oblast Antimalaria Station, by A. V. Mishin and Ye. N. Gerasimova of the Udmurt Antimalaria Station, and others covered this range of subjects.

Among reports on problems of antitick prophylaxis, one may note that N. N. Gorchakovskaya, Yu. I. Gadalina, and A. B. Levit (Kuybyshev Antimalaria Station), entitled, "Experience in the Control of Ixodidae ticks in the Construction Zone of the Kuybyshev Hydroelectric Power Station," and the report by N. N. Gorchakovskaya (Joint Expedition of the Institute of Virology and the Central Institute of Disinfection), entitled, "A New Method of Communal Antitick Prophylaxis at Reservoirs of Tick Encephalitis." In these reports information was given on methods for the direct extermination of ticks under natural conditions by means of DDT and hexachlorane. Application on the ground level and dispersion over forested areas from planes in the construction area of the hydroelectric power station were applied. A dose of 0.5 gram per one square meter of area proved effective.

After a single application of the insecticides in early spring, the number of ticks was reduced and thereafter was not restored until the end of the season. This method should be applied extensively. The indications for its application have been formulated in great detail.

In a report by S. S. Gladkikh entitled, "Application of Tick Repellent at Foci of Tick Encephalitis," experimental data on the protective qualities of new synthetic preparations were presented. To repel ticks, clothing was treated with dimethylphthalate, dibutylphthalate, or diethylphthalate. The last-named substance was tested for the first time. This work was carried out at a focus of tick encephalitis where the transmitter or vector occurred in great numbers. It was established that dibutylphthalate or diethylphthalate, on being applied manually in the quantity of 50 grams per set of clothing, protects against the attack of ticks of the species *Ixodes persulcatus*. Tick repellents must be widely introduced into practical use.

A. P. Shapoval, Docent A. V. Mishin, Docent S. N. Pokrovskiy, and M. A. Buslayev, chief of the Division of Control of Parasitic Diseases, Ministry of Health USSR, participated in the discussions. The persons participating in the discussions made critical remarks pertaining to the reports and contributed many valuable suggestions. Specifically, it was pointed out that one should not carry out the treatment of 1,000 hectares of forested areas with DDT in Yaroslavl' Oblast, as planned for 1954, because only six cases of tick encephalitis occurred in this oblast in 1953 and these cases were widely dispersed in different rayons of the oblast.

STAT

The suggestion was made that closer contacts be made, as far as work on problems pertaining to the control of ticks is concerned, between medical-sanitary institutions and organizations which are active in the field of forest economy and other relevant fields.

The conference has demonstrated that work on the important problem of the control of tick encephalitis is being pursued by a number of scientific research institutions which have joined in this activity and which, in collaboration with practical epidemiologists and parasitologists, will solve the problem involved in controlling the severe transmissible disease which spring-summer tick encephalitis represents.

Conferences of this type, which are carried out for a unified purpose, are quite useful, because shortcomings become apparent and better ways of investigating the problem in the future are proposed.

It may be noted with satisfaction that the scientific institutions of Kuybyshev, Molotov, and Leningrad Oblasts, of the Tartar ASSR, the Udmurt ASSR, and other administrative units, correctly plan the scientific research work carried out by them, with due consideration for the regional peculiarities of tick encephalitis.

- E N D -

STAT

- 4 -